California Regional Water Quality Control Board
Santa Ana Region

July 20, 2001

ITEM: 11

SUBJECT: Appeal of Staff's Denial of an Exemption from the Minimum Lot Size Requirement for Subsurface Disposal System Use – Paul and Debra Trozzi, Lot 19, Tract No. 987, Silverado Canyon area, Orange County

DISCUSSION:

Mr. and Mrs. Trozzi propose to construct a single-family residence on a small lot (4,356 sq. ft., or 0.10 acre net) in the Silverado Canyon area of Orange County. The property is bounded by an existing house to the east, Silverado Canyon Road to the south and vacant land to the west. Silverado Canyon Creek traverses the rear portion of the lot on its northern side.

The Silverado Canyon area of Orange County is unsewered. The Trozzis investigated the use of a conventional septic tank subsurface disposal system at their proposed development but were advised by the Orange County Planning and Development Services Department that it would be infeasible since pertinent County requirements could not be met. These include the requirements: (1) that the subsurface disposal system be located at least 50 feet from a stream (there would be only 46 feet of separation on the Trozzis' property); (2) that there be a minimum of 10 feet of separation between the disposal system and seasonally high groundwater (percolation testing of the Trozzis' property found groundwater at 8.5 feet below the ground surface); (3) that sufficient area be available for 100% expansion of a leach field (there is not room on the Trozzis' property for such expansion); and, (4) that no part of the disposal system be within a 100 year flood plain (the Trozzis' property is within the 100 year flood plain).

In response, the Trozzis investigated the use of an alternative onsite waste treatment and disposal system (the "Enviroserver", manufactured by MicroSepTec, Inc.) According to materials provided to Board staff by the manufacturer, this system is designed to provide advanced treatment of wastewater, including clarification, aerobic digestion and disinfection. The documentation submitted indicates that the system provides tertiary quality water with total nitrogen concentrations less than 10 mg/l and non-detectable fecal coliform. The product water is typically used for landscape irrigation via a subsurface drip irrigation system. Thermal decomposition is used to eliminate sludge on-site. The system is controlled and monitored by an "on board" computer, which is connected by telephone line to MicroSepTec's service database computer. This allows for remote monitoring of the system and assessment by a service technician of appropriate response to alarms.

On April 25, 2001, the Trozzis submitted a request to Board staff for approval of this alternative system. By letter dated May 11, 2001, staff denied this request since the system would not conform to the Regional Board's minimum lot size requirement of one-half acre per dwelling unit for the use of subsurface disposal systems. However, Board staff acknowledged that it might be argued that the minimum lot size requirements should not apply to this alternative system since the effluent quality it produces appears to be substantially better than that from conventional septic tank systems. Staff advised the Trozzis that we could not make this determination and that they could appeal Board staff's denial to the Board.

Staff's May 11, 2001 letter identified other concerns regarding the proposed use of an alternative waste disposal system. Specifically, we are concerned about the long-term oversight and maintenance of the system, particularly if the manufacturer were to declare bankruptcy or be otherwise unable to continue to perform maintenance of the system. We indicated the need to assure that a public agency would oversee the system to ensure public health and water quality protection.

On behalf of the Trozzis, the manufacturer responded that their alternative system is simple in design and operation, and that should critical proprietary components of the system fail (i.e., the on board computer or the thermal processor), the system could be readily reconfigured to operate effectively with off-the-shelf components. The manufacturer offered to meet with Board and County staff to discuss these details but did not provide any evidence of a commitment on the part of the County or another appropriate local agency to assume the oversight role.

Apart from the minimum lot size requirements and the need to assure public agency oversight, other requirements must be considered. These are the Regional Board's "Guidelines for Sewage Disposal from Land Developments", adopted in January 1979. These Guidelines specify minimum criteria for subsurface discharge of waste. They also identify the circumstances in which waste discharge requirements for discharges from subsurface disposal systems can be waived and when such requirements will be necessary. Innovative waste treatment systems are also addressed briefly.

The minimum criteria specify, in part, that unless the developer demonstrates, or the local health authority finds, that a pollution, nuisance, or contamination will not occur as the result of the discharge of domestic wastes, there must be at least 10 feet between the ground surface and anticipated high groundwater. Further, compliance must be achieved with all applicable local requirements (including distance from streams, etc.). As discussed above, the Trozzis' proposed development does not comply with these requirements. Based on the effluent quality information submitted by the manufacturer, it appears that it might be possible to demonstrate that, if the system is properly operated and maintained, a pollution, nuisance or contamination will not occur as the result of the discharge of domestic wastes at the site. However, absent public agency oversight to assure proper operation and maintenance, staff believes that such conditions could occur. This is particularly true in view of the proximity of the property to Silverado Canyon Creek, the high groundwater levels, and the fact that the property is located within the flood plain.

The innovative waste treatment system provisions of the Guidelines provide that these systems will be evaluated on a case by case basis, but that they must conform to the Guidelines (including the minimum criteria) and assure water quality and public health protection that is at least equivalent to conventional systems.

The Guidelines stipulate that waste discharge requirements will be required for developments that fail to comply with the minimum criteria. Again, it appears that this is the case here. Further, the Trozzis' proposed development does not comply with the Board's minimum lot size requirements. Again, an argument might be made, but has not been to date, that in view of the enhanced effluent quality of the alternative system, the discharge would have no greater impact on underlying groundwater than that of a conventional system operating on a one-half acre lot, i.e., the one-half acre requirement is not relevant in this case.

Unless there is compliance with local agency requirements and there is a public agency commitment to oversight of the operation and maintenance of this system, Board staff cannot recommend approval of the Trozzis' request. Were such approval to be granted, waste discharge requirements would be necessary to assure water quality and public health protection. In addition, this would not relieve the Trozzis of the need to comply with other agency requirements.

RECOMMENDATION

Deny the Trozzis' request for the use of an alternative onsite waste treatment and disposal system.